

#### DISCUSSION

The total number counted in the 2001 Arizona bald eagle winter count was 216. This is the lowest number of bald eagles counted since the survey routes were standardized in 1995. However, our low numbers were not attributed to a lack of effort. From 1995 to 2000 our average survey time is 8,251 minutes (137.5 hours) where we completed an average 101.5 routes. This year we surveyed for 475 minutes (7.9 hours) and six routes above those averages (8,726 minutes and 108 routes).

The percentage of adults and subadults bald eagles counted in Arizona match the NWF national winter surveys for 1986-1988 (Hastings 1988). Statewide winter counts from 1981 to 1985 and 1992 to 2000 averaged 65 percent adults ( $n=2342$ ), 33 percent subadults ( $n=1199$ ), and 2 percent unknown ( $n=79$ ) (Table 13). In 2001, the percentage of adults counted (66 percent) was just above, while the percentage of subadults (32 percent) was just below national levels.

We can attribute the low count this year to three consecutive severe winter storms entering the state during and after Arizona's survey period. Areas that normally record a high number of bald eagles (lakes near Flagstaff, San Carlos Reservoir, White and lower Black rivers, etc.) had minimal counts.

#### RECOMMENDATIONS

Continue to conduct the annual winter count with the 115 standardized routes.

Continue updating the Nongame Branch bald eagle winter count database with core information from the standardized survey forms.

Develop statewide maps documenting the location and abundance of wintering eagles for distribution to managing agencies.

Begin to document the location of wintering bald eagle mortalities in Arizona and follow up with appropriate management.

#### LITERATURE CITED

- Beatty, G.L. 1993. 1992 Arizona bald eagle winter count. Nongame and Endangered Wildlife Program Technical Report. Arizona Game and Fish Department, Phoenix, Arizona.
- Beatty, G.L. and J.T. Driscoll. 1994. 1993 Arizona bald eagle winter count. Nongame and Endangered Wildlife Program Technical Report. Arizona Game and Fish Department, Phoenix, Arizona.

- Beatty, G.L. and J.T. Driscoll. 1996. Arizona bald eagle winter count: 1996. Nongame and Endangered Wildlife Program Technical Report 103. Arizona Game and Fish Department, Phoenix, Arizona.
- Beatty, G.L. and J.T. Driscoll. 1998. Arizona bald eagle winter count: 1997-1998. Nongame and Endangered Wildlife Program Technical Report 137. Arizona Game and Fish Department, Phoenix, Arizona.
- Beatty, G.L., J.T. Driscoll, and M.C. Siemens. 1995a. Arizona bald eagle winter count: 1994. Nongame and Endangered Wildlife Program Technical Report 68. Arizona Game and Fish Department, Phoenix, Arizona.
- Beatty, G.L., J.T. Driscoll, and J.G. Koloszar. 1995b. Arizona bald eagle winter count: 1995. Nongame and Endangered Wildlife Program Technical Report 82. Arizona Game and Fish Department, Phoenix, Arizona.
- Brown, B.T., R. Mesta, L.E. Stevens, and J. Weiseit. 1989. Changes in winter distribution of bald eagles along the Colorado River in the Grand Canyon, Arizona. *J. Raptor Res.* 23(3): 110-113.
- Brown, B.T. and L.E. Stevens. 1992. Winter abundance, age structure, and distribution of bald eagles along the Colorado River, Arizona. *Southwestern Naturalist* 37:404-435.
- Driscoll, J.T. and J.G. Koloszar. 2000. Arizona bald eagle winter count: 1999 - 2000. Nongame and Endangered Wildlife Program Technical Report 139. Arizona Game and Fish Department, Phoenix, Arizona.
- Hall, R.S. 1985. Memo re: Arizona's 1985 winter and spring bald eagle surveys. Bureau of Land Management, Kingman, Arizona.
- Hastings, B.C. 1988. Midwinter bald eagle survey report, 1986-1987. Institute for Wildlife Research, National Wildlife Federation, Washington, D.C.
- Stalmaster, M.V. 1987. The bald eagle. Universe Books, New York, New York.
- Todd, R.L. 1977. Winter bald eagle in Arizona. Arizona Game and Fish Department, Phoenix, Arizona.
- Todd, R.L. 1981. Multi-agency findings on the distribution of bald eagles for Arizona in the January months of 1979, 1980, 1981. Arizona Game and Fish Department, Phoenix, Arizona.

- Todd, R.L. 1984a. A report on the Nongame Branch bald eagle survey flights in January, 1984. Special Report. Arizona Game and Fish Department, Phoenix, Arizona.
- Todd, R.L. 1984b. Memo re: winter bald eagle counts in Arizona. Arizona Game and Fish Department, Phoenix, Arizona.
- U.S. Fish and Wildlife Service. 1982. Bald eagle recovery plan (southwestern population). U.S. Fish and Wildlife Service, Albuquerque, New Mexico.
- U.S. Fish and Wildlife Service. 1990. Biological opinion on Central Arizona Water Control Project, Roosevelt Dam Element of Plan 6 (2-21-83-f-10), U.S. Fish and Wildlife Service, Phoenix, Arizona.
- U.S. Fish and Wildlife Service. 1995. Endangered and Threatened Species: Bald Eagle Reclassification; Final Rule. Volume 60, No. 133. Department of the Interior, Washington D.C.
- U.S. Fish and Wildlife Service. 1999. Endangered and threatened wildlife and plants; proposed rule to remove the bald eagle in the lower 48 states from the list of endangered and threatened wildlife; proposed rule. Federal Register. 64(128):36454-64. Department of the Interior, Washington, D.C.

Route Number	Route Name	Minimum Surveyed	Adults	Subadults	Bald Eagle	Unknown
18	Paria Canyon Lake	120	2	0	0	0
19	Wilcox Pigeon	210	0	0	0	0
20	Superior Springs Valley - Whitewater Draw	45	0	0	0	0
	Total	375	2	0	0	0

APPENDIX A: 2001 WINTER COUNT

Table 1. Results of the 2001 Arizona bald eagle winter count, Apache County.

Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
1	Becker Lake	10	2	0	0	0
2	Little Colorado River (LCR)	10	0	0	0	0
3	S. Fork LCR - Campground	15	0	0	0	0
4	Casa Malpais - LCR	10	0	0	0	0
5	Greer Lakes (River, Bunch, and Tunnel Reservoirs)	115	0	0	0	0
6	Sponseller Lake	20	0	0	0	0
7	Mexican Hay Lake	60	0	0	0	0
8	White Mountain Hereford Ranch (Trinity, Glen Livet, McKay reservoirs)	60	6	0	0	0
9	The Ranch Lake	20	0	0	0	0
10	Ortega Lake	34	0	0	0	0
11	Concho Lake	25	0	0	0	0
12	Luna Lake	55	1	2	0	0
13	Nelson Reservoir	25	0	0	0	0
14	Nutriso Reservoir	25	3	0	0	0
15	Tenney Pond	10	0	0	0	0
16	San Francisco River (Alpine RD to New Mexico)	125	0	0	0	0
17	Campbell Blue Creek	90	0	0	0	0
Total		709	12	2	0	0

Table 2. Results of the 2001 Arizona bald eagle winter count, Cochise County.

Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
18	Parker Canyon Lake	120	2	0	0	0
19	Willcox Playa	210	0	0	0	0
20	Sulphur Springs Valley - Whitewater Draw	45	0	0	0	0
Total		375	2	0	0	0



Table 3. Results of the 2001 Arizona bald eagle winter count, Coconino County.

Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
21	Long Lake Complex	120	2	2	0	1
22	Stoneman Lake	260	4	4	0	0
23	FH3	75	1	0	0	0
24	I-17, Sedona to Flagstaff	220	7	4	0	0
25	Bellemont	285	0	0	0	0
26	Townsend/Winona A/B	180	1	5	0	0
27	HWY 89 North/Sunset Crater - Wupatki	350	4	0	0	0
28	FH3 Lakes (Mary, Mormon, Marshall, Prime)	420	5	0	0	0
29	Continental Country Club Lakes	195	5	3	0	0
30	Chevelon Canyon Lake	Not Surveyed				
31	Holden Lake	10	0	0	0	0
32	Spring Valley Wash	120	0	0	0	0
33	Red Lake Valley	15	0	0	0	0
34	Kaibab Lake	150	3	1	0	0
35	Pittman Valley	20	1	1	0	0
36	Davenport Lake	20	1	0	0	0
37	Scholz Lake	45	0	4	0	0
38	Cataract Lake	25	0	0	0	0
39	Willow Springs Lake	65	0	0	0	0
40	West Chevelon Canyon	90	1	0	0	0
41	Willow Creek	72	0	0	0	0
42	White Horse Lake - Pomeroy Tanks	45	0	0	0	0
43	JD Dam Lake	30	0	0	0	0
44	Barney Flat Wetland	5	0	0	0	0
45	Steel/Stone Road	55	0	0	0	0
46	Pine Flat	40	0	0	0	0
47	Boggy Tank	90	0	0	0	0
48	Blue Stem Wash-Babbitt property	Not Surveyed				

Table 3. (continued)						
Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
49	Glen Canyon Nat'l Rec Area (Lee's Ferry)	95	3	5	0	0
50	Colorado River, Lee's Ferry to Little Colorado River	Not Surveyed				
Total		3097	38	29	0	1

Table 4. Results of the 2001 Arizona bald eagle winter count, Graham, Greenlee, and Maricopa Counties.						
Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
51	Point of Pines Lake Area	180	0	0	0	0
52	Greys Peak	30	0	0	0	0
53	Painted Rock Reservoir	10	0	0	0	0
Total		220	0	0	0	0

Table 5. Results of the 2001 Arizona bald eagle winter count, Mohave County.						
Route Number	Route Name	Minutes Surveyed	Adults	Subadults	Unknown Bald Eagle	Unknown Eagle
54	Lake Mohave	915	0	2	0	3
55	Havas National Wildlife Refuge, Topock Marsh	240	1	1	0	0
56	Lake Mead, Temple Bar	420	2	2	0	0
57	Alamo Lake	12	1	1	0	0
Total		1587	4	6	0	3